

TEST REPORT

Applicant: TFIVE PTY LTD
Address: 10/29 Lorne Ave Killara NSW 2071 Australia
Equipment Type: Smart Door Lock D100 Zigbee Edition
Model Name: ZNMS20LM
Brand Name: Aqara
Test Standard: IEC 62368-1: 2018
AS/NZS 62368.1:2022
Test Date : Jul. 19, 2022 –Jul. 28, 2022
Date of Issue: Sep. 28, 2022

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Jack Zhang**Checked by:** Terry Wen**Approved by:** Liao Jianming

(Technical Director)



Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Sep. 28, 2022</u>	<u>Initial Issue</u>

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1 ADMINISTRATIVE DATA (GENERAL INFORMATION)

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province
Phone Number	+86 755 6685 0100

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province
Description	All measurement facilities used to collect the measurement data are located at Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	TFIVE PTY LTD
Address	10/29 Lorne Ave Killara NSW 2071 Australia

2.2 Manufacturer Information

Manufacturer	Lumi United Technology Co., Ltd.
Address	Room 801-804, Building 1, Chongwen Park, Nanshan iPark, No. 3370, Liuxian Avenue, Fuguang Community, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.3 Factory Information

Factory	/
Address	/

2.4 General Description for Equipment under Test (EUT)

Equipment Type	Smart Door Lock D100 Zigbee Edition
Model Name Under Test	ZNMS20LM
Series Model Name	/
Description of Model name differentiation	/
Hardware Version	/
Software Version	/
Dimensions(Approx.)	/
Weight(Approx.)	3.71Kg

2.5 Ancillary Equipment

Ancillary Equipment 1	Lithium-Ion Battery	
	Brand Name	/
	Model No.	JKON
	Serial No.	/
	Capacitance	2480mAh
	Rated Voltage	7.2V
Note 1:		

2.6 Technical Information

The requirement for the following technical information of the EUT was tested in this report:

Ratings	Input: 5Vdc(by USB Type C); 7.2Vdc, 2480mAh (supplied by rechargeable Li-Polymer battery pack)
Product group	<input checked="" type="checkbox"/> end product <input type="checkbox"/> built-in component
Classification of use by	<input checked="" type="checkbox"/> Ordinary person <input type="checkbox"/> Instructed person <input type="checkbox"/> Skilled person <input checked="" type="checkbox"/> Children likely to be present
Supply Connection	<input type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input checked="" type="checkbox"/> External Circuit - not Mains connected - <input checked="" type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance	<input type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +____%/ -____% <input checked="" type="checkbox"/> None
Supply Connection – Type	<input type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input checked="" type="checkbox"/> other: Not directly connect to mains
Considered current rating of protective device as part of	<input type="checkbox"/> ____ A;

building or equipment installation	Installation location: <input type="checkbox"/> building; <input type="checkbox"/> equipment <input checked="" type="checkbox"/> N/A		
Equipment mobility	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> direct plug-in <input checked="" type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> wall/ceiling-mounted <input type="checkbox"/> SRME/rack-mounted <input type="checkbox"/> other:		
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input checked="" type="checkbox"/> other: Not directly connect to mains		
Class of equipment	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input checked="" type="checkbox"/> Class III <input type="checkbox"/> Not classified <input type="checkbox"/> other		
Access location	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> restricted access area <input type="checkbox"/> outdoor location <input type="checkbox"/>		
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3		
Manufacturer's specified maximum operating ambient	55°C <input type="checkbox"/> Outdoor: minimum °C		
IP protection class	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IPX4		
Power Systems	<input type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - ____ V L-L; <input type="checkbox"/> dc mains <input checked="" type="checkbox"/> not AC mains		
Altitude during operation (m)	<input checked="" type="checkbox"/> 2000m or less <input type="checkbox"/> 5000 m		
Altitude of test laboratory (m)	<input checked="" type="checkbox"/> 2000m or less <input type="checkbox"/> _____ m		
Mass of equipment (kg)	<input checked="" type="checkbox"/> 3.71Kg		
Note: The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.			

3 SUMMARY OF TEST

3.1 Test Standards

No.	Identity	Document Title
1	IEC 62368-1:2018	Audio/video, information and communication technology equipment –Part 1: Safety requirements
2	AS/NZS 62368.1:2022	Audio/video, information and communication technology equipment –Part 1: Safety requirements

3.2 Possible test box verdict

Possible test box verdicts:

- test box does not apply to the test object. : N/A
- test object does meet the requirement.....: P(Pass)
- test object does not meet the requirement..: F(Fail)

3.3 Test item

<p>Tests performed (name of test and test clause):</p> <p>All applicable tests as described in Test Case and Measurement Sections were performed.</p> <table border="1"> <tbody> <tr><td>4</td><td>General requirements</td></tr> <tr><td>5.2</td><td>Electrical energy source classifications</td></tr> <tr><td>5.4.1.4, 6.3.2, 9.0, B.2.6</td><td>Maximum operating temperatures for materials, components and systems</td></tr> <tr><td>6.2.2</td><td>Electrical power sources (PS) measurements for classification</td></tr> <tr><td>9.4.1</td><td>Equipment safeguards for thermal burn</td></tr> <tr><td>B.2.5</td><td>Input tests</td></tr> <tr><td>B.3</td><td>Simulated Abnormal operating condition tests</td></tr> <tr><td>B.4</td><td>Simulated single fault conditions</td></tr> <tr><td>F.3.9</td><td>Durability, legibility and permanence of markings</td></tr> <tr><td>Annex M</td><td>batteries</td></tr> <tr><td>Q.1.2</td><td>Limited power sources</td></tr> <tr><td>T.5</td><td>Steady force test, 250 N</td></tr> <tr><td>T.6</td><td>Impact test</td></tr> <tr><td>T.7</td><td>Drop test</td></tr> <tr><td>T.8</td><td>Stress relief test</td></tr> </tbody> </table>		4	General requirements	5.2	Electrical energy source classifications	5.4.1.4, 6.3.2, 9.0, B.2.6	Maximum operating temperatures for materials, components and systems	6.2.2	Electrical power sources (PS) measurements for classification	9.4.1	Equipment safeguards for thermal burn	B.2.5	Input tests	B.3	Simulated Abnormal operating condition tests	B.4	Simulated single fault conditions	F.3.9	Durability, legibility and permanence of markings	Annex M	batteries	Q.1.2	Limited power sources	T.5	Steady force test, 250 N	T.6	Impact test	T.7	Drop test	T.8	Stress relief test
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<p>Note :</p> <ol style="list-style-type: none"> 1. Max. ambient temperature 55°C. 2. For temperature test the thermocouples method used, regarding fault condition test simulated faults applied. 3. EUT passed all the tests. 																															

3.4 General information

GENERAL REMARKS:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

GENERAL PRODUCT INFORMATION:

1. The equipment under test is a Class III Smart Door Lock D100 Zigbee Edition which used as Audio/video, information and communication technology equipment which indoor use only.
2. Max. Ambient temperature 55°C declared by the client.
3. Instructions and equipment marking related to safety is applied in the language that is acceptable in the country in which the equipment is to be sold.

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	Possible Hazard			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES1: Charging port: +5Vdc input	Ordinary	N/A	N/A	N/A
ES1: Internal battery + & -: +8.5Vd.c.	Ordinary	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1 st S	2 nd S
PS3: >100W circuit (Internal circuit/battery cell)	PCB	Comply with 6.3	V-1 or better	N/A
PS3: >100W circuit (Internal circuit/battery cell)	Enclosure	Comply with 6.3	Comply with 6.4.6	N/A
PS3: >100W circuit (Internal circuit/battery cell)	Combustible materials within equipment	Comply with 6.3	Comply with 6.4.6	N/A
PS3: >100W circuit (Internal circuit/battery cell)	Internal wire	Comply with 6.3	Comply with 6.5	N/A
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
battery	Ordinary	N/A	Complied with annex M	N/A
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
MS1: Edges and corners	Ordinary	N/A	N/A	N/A
MS1: Mass of the unit	Ordinary	N/A	N/A	N/A
9	Thermal burn			
Class and Energy Source	Body Part	Safeguards		

(e.g. TS1: Keyboard caps)	(e.g., Ordinary)	B	S	R
TS1: Accessible parts	Ordinary	N/A	N/A	N/A
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
RS1: Indicating LED	Ordinary	N/A	N/A	N/A
Supplementary Information:				
“B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

Temperature (°C)	15°C to 35°C
Relative Humidity (%)	35% to 75%
Atmospheric Pressure (kPa)	100kPa to 102kPa

4.2 Test Equipment List

No.	Equipment name	Manufacture	Serial No.	Calibration Due Data	Usage
1	Digital Caliper	AIRAJ	BZ-SFT-L228	2022/10/11	√
2	Tape Measure	/	BZ-SFT-L145	2022/10/20	√
3	Heating Recorder	Agilent	BZ-SFT-L131	2023/01/04	√
4	Heating Recorder	YOKOGAWA	BZ-SFT-L090	2023/06/13	√
5	DC electronic load	AITAIKESI	BZ-SFT-L027	2022/10/11	√
6	High temperature test chamber	CANY	BZ-SFT-L222	2023/01/04	√
7	Pull and push Tester	HANDPI	BZ-SFT-L045	2022/10/11	√
8	Digital Multimeter	Fluke	BZ-SFT-L187	2023/01/04	√
9	Drop test board	BALUN	BZ-SFT-L059	--	√
10	Electronic Scale	YINGHENG	BZ-SFT-L107	2022/10/11	√
11	Stop Watch	HUIBO	BZ-SFT-L068	2023/05/24	√
12	DC power	ITECH	BZ-SFT-L143	2023/01/07	√
13	Humidity & Temperature Chamber	/	BZ-KKX-L004	2022/10/11	√

Clause	Requirement-Test	Result-Remark	Verdict
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5 TEST RESULTS

4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment. See also Annex G	P
4.1.3	Equipment design and construction	Evaluation of safeguards regarding limiting the outputs to fulfill ES1 and protection in regard to risk of spread of fire, mechanical and thermal burn injury considered.	P
4.1.4	Specified ambient temperature for outdoor use (°C):		N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)	(See G.15)	N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Clause T.5)	P
4.4.3.3	Drop tests	(See Clause T.7)	P
4.4.3.4	Impact tests	(See Clause T.6)	P
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests	(See Clause T.9, Annex U)	N/A
4.4.3.7	Glass fixation tests	No such glass used	N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
4.4.3.8	Thermoplastic material tests	(See Clause T.8)	P
4.4.3.9	Air comprising a safeguard		N/A
4.4.3.10	Accessibility, glass, safeguard effectiveness	After tests, no safeguard damaged.	P
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks	(See Annex K)	N/A
4.5	Explosion		P
4.5.1	General	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions		N/A
4.6	Fixing of conductors	Class III equipment	N/A
	Fix conductors not to defeat a safeguard		N/A
	Compliance is checked by test.....:	(See Clause T.2)	N/A
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	Mains plug part complies with relevant standard:	The EUT is not for direct insertion into mains socket outlets, class III equipment	N/A
4.7.3	Torque (Nm)		N/A
4.8	Equipment containing coin/button cell batteries		N/A
4.8.1	General	No coin/button cell batteries used.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery compartment door/cover construction	No such battery compartment	N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	Likelihood of fire or shock due to entry of conductive object		N/A
4.10	Component requirements		N/A
4.10.1	Disconnect Device	(See Annex L)	N/A
4.10.2	Switches and relays	(See Annex G)	N/A

5	ELECTRICALLY-CAUSED INJURY		P
5.2	Classification and limits of electrical energy sources		P
5.2.2	ES1, ES2 and ES3 limits	ES1	P
5.2.2.2	Steady-state voltage and current limits	(See appended table 5.2)	P
5.2.2.3	Capacitance limits	(See appended table 5.2)	N/A
5.2.2.4	Single pulse limits	No such single pulses generated in the EUT or applied to it.	N/A
5.2.2.5	Limits for repetitive pulses	No such repetitive pulses within the EUT	N/A
5.2.2.6	Ringing signals	(See Annex H)	N/A
5.2.2.7	Audio signals	(See Clause E.1)	N/A
5.3	Protection against electrical energy sources		N/A
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See only 4.3 and 5.3 to 5.5 which applies to protection between the accessible parts and hazardous parts of other circuits.	N/A
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits		N/A
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards		N/A
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements		N/A
	Test with test probe from Annex V		—

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Clause	Requirement-Test	Result-Remark	Verdict
5.3.2.2 a)	Air gap – electric strength test potential (V)	(See appended table 5.4.9)	N/A
5.3.2.2 b)	Air gap – distance (mm)		N/A
5.3.2.3	Compliance		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	All circuits or parts are considered as ES1. Insulations are not required.	P
5.4.1.3	Material is non-hygroscopic	No such material used	N/A
5.4.1.4	Maximum operating temperature for insulating materials.....:	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degrees		N/A
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is applied. No insulating compound applied (however see 5.5.4).	N/A
5.4.1.5.3	Thermal cycling test	See above	N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer within the EUT	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such starting pulses within the EUT	N/A
5.4.1.8	Determination of working voltage	(See appended table 5.4.1.8)	N/A
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat test.....:	(See appended table 5.4.1.10.2)	N/A
5.4.1.10.3	Ball pressure test	(See appended table 5.4.1.10.3)	N/A
5.4.2	Clearances		N/A
5.4.2.1	General requirements		N/A
	Clearances in circuits connected to AC Mains, Alternative method	(See Annex X)	N/A
5.4.2.2	Procedure 1 for determining clearance		N/A
	Temporary overvoltage		—

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Clause	Requirement-Test	Result-Remark	Verdict
5.4.2.3	Procedure 2 for determining clearance		N/A
5.4.2.3.2.2	a.c. mains transient voltage		—
5.4.2.3.2.3	d.c. mains transient voltage		—
5.4.2.3.2.4	External circuit transient voltage		—
5.4.2.3.2.5	Transient voltage determined by measurement		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	(See appended table 5.4.2)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages		N/A
5.4.2.6	Clearance measurement	(See appended table 5.4.2)	N/A
5.4.3	Creepage distances		N/A
5.4.3.1	General		N/A
5.4.3.3	Material group		—
5.4.3.4	Creepage distances measurement	(See appended table 5.4.3)	N/A
5.4.4	Solid insulation		N/A
5.4.4.1	General requirements		N/A
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2)	N/A
5.4.4.3	Insulating compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Insulating compound forming cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs)		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs)		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material.....	(See appended table 5.4.9)	N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P , K_R , d , V_{PW} (V)	(See appended Table 5.4.4.9)	N/A
	Alternative by electric strength test, tested voltage (V), K_R:	(See appended Tables 5.4.4.9 and 5.4.9)	N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance ($M\Omega$)		N/A
	Electric strength test	(See appended table 5.4.9)	N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		N/A
	Relative humidity (%), temperature (°C), duration (h)		—
5.4.9	Electric strength test		N/A
5.4.9.1	Test procedure for type test of solid insulation:	(See appended table 5.4.9)	N/A
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from external circuits		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test	(See appended table 5.4.9)	N/A
5.4.10.2.3	Steady-state test	(See appended table 5.4.9)	N/A
5.4.10.3	Verification for insulation breakdown for impulse test.....:		N/A
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage U_{op} (V)		—
	Nominal voltage U_{peak} (V)		—
	Max increase due to variation ΔU_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
5.4.11.3	Test method and compliance	(See appended table 5.4.9)	N/A
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid.....	(See appended table 5.4.9)	N/A
5.4.12.3	Compatibility of an insulating liquid.....	(See appended table 5.4.9)	N/A
5.4.12.4	Container for insulating liquid.....		N/A
5.5	Components as safeguards		—
5.5.1	General		N/A
5.5.2	Capacitors and RC units		N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector	(See appended table 5.5.2.2)	N/A
5.5.3	Transformers		N/A
5.5.4	Optocouplers	(See sub-clause 5.4 or Clause G.12)	N/A
5.5.5	Relays	(See sub-clause 5.4)	N/A
5.5.6	Resistors	(See Clause G.10)	N/A
5.5.7	SPDs	(See Clause G.8)	N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA)		—
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors		N/A
5.6	Protective conductor		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
5.6.2	Requirement for protective conductors		N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²):		—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²).:		—
5.6.4.2	Protective current rating (A)		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)		N/A
	Terminal size for connecting protective bonding conductors (mm)		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective bonding system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method	(See appended table 5.6.6)	N/A
5.6.6.3	Resistance (Ω) or voltage drop	(See appended table 5.6.6)	N/A
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm ²)		N/A
	Class II with functional earthing marking		N/A
	Appliance inlet cl & cr (mm)		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		N/A
5.7.2	Measuring devices and networks		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
5.7.2.1	Measurement of touch current		N/A
5.7.2.2	Measurement of voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		N/A
5.7.4	Unearthed accessible parts.....:	(See appended table 5.7.4)	N/A
5.7.5	Earthed accessible conductive parts.....:	(See appended table 5.7.5)	N/A
5.7.6	Requirements when touch current exceeds ES2 limits		N/A
	Protective conductor current (mA)		N/A
	Instructional Safeguard		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA)		N/A
	b) Equipment connected to unearthed external circuits, current (mA)		N/A
5.8	Backfeed safeguard in battery backed up supplies		N/A
	Mains terminal ES.....:	(See appended table 5.8)	N/A
	Air gap (mm)		N/A

6	ELECTRICALLY- CAUSED FIRE	P
6.2	Classification of PS and PIS	P
6.2.2	Power source circuit classifications.....:	(See appended table 6.2.2)
6.2.3	Classification of potential ignition sources	PS classification determined by measuring the maximum power in figures 34 and 35 for load and power source circuits
6.2.3.1	Arcing PIS	(See appended table 6.2.3.1)
		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
6.2.3.2	Resistive PIS: (See appended table 6.2.3.2)		P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials:	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
	Combustible materials outside fire enclosure:		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method	Method by control of fire spread applied.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	Single Fault Conditions: (See appended table B.4)		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards	Compliance detailed as follows: – Printed board: rated min. V-1 -Internal wire: complying with UL758 standard, which test method and testing condition equal to IEC/EN 60695-11-21. --Battery pack: complying with IEC/EN 62133; --All other components: at least V-2 except for parts mounted on min. V-1 material or small parts of combustible material (with mass less than 4g);	P
6.4.6	Control of fire spread in PS3 circuits	Compliance detailed as follows: – Printed board: rated min. V-1 -Internal wire: complying with UL758 standard, which test method and	P

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Clause	Requirement-Test	Result-Remark	Verdict
		testing condition equal to IEC/EN 60695-11-21. --Battery pack: complying with IEC/EN 62133; --All other components: at least V-2 except for parts mounted on min. V-1 material or small parts of combustible material (with mass less than 4g); - V-0 plastic enclosure and metal enclosure used	
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier	No specific barrier provided.	N/A
6.4.8	Fire enclosures and fire barriers	See below.	P
6.4.8.2	Fire enclosure and fire barrier material properties	V-0 plastic enclosure and metal enclosure used	P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	V-0 plastic enclosure and metal enclosure used	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings	No opennings	N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties	No opennings	N/A
	Openings dimensions (mm)		N/A
6.4.8.3.4	Bottom openings and properties	No opennings	N/A
	Openings dimensions (mm)		N/A
	Flammability tests for the bottom of a fire enclosure	(See Clause S.3)	N/A
	Instructional Safeguard.....:		N/A
6.4.8.3.5	Side openings and properties	No opennings	N/A
	Openings dimensions (mm)		N/A
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b)		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
	or c)		
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating.....:	V-0 plastic enclosure and metal enclosure used	P
6.4.9	Flammability of insulating liquid		N/A
6.5	Internal and external wiring		P
6.5.1	General requirements	VW-1 used	P
6.5.2	Requirements for interconnection to building wiring	No such wiring	N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets		N/A
6.6	Safeguards against fire due to the connection to additional equipment		P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES	P
7.2	Reduction of exposure to hazardous substances	N/A
7.3	Ozone exposure	N/A
7.4	Use of personal safeguards or personal protective equipment (PPE)	N/A
	Personal safeguards and instructions	—
7.5	Use of instructional safeguards and instructions	N/A
	Instructional safeguard (ISO 7010)	—
7.6	Batteries and their protection circuits	P

8	MECHANICALLY-CAUSED INJURY	P
8.2	Mechanical energy source classifications	P
8.3	Safeguards against mechanical energy sources	P
8.4	Safeguards against parts with sharp edges and corners	P
8.4.1	Safeguards	MS1: - No sharp edges or corners. MS1: - Mass less than 1 kg.
	Instructional Safeguard.....:	N/A
8.4.2	Sharp edges or corners	Edges and corners of the enclosure are rounded, and is considered as
		P

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Clause	Requirement-Test	Result-Remark	Verdict
		MS1.	
8.5	Safeguards against moving parts		N/A
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts		N/A
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard		N/A
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m).....:		N/A
	Space between end point and nearest fixed mechanical part (mm)		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N)		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps		N/A
	Explosion test.....:		N/A
8.5.5.3	Glass particles dimensions (mm)		N/A
8.6	Stability of equipment		N/A
8.6.1	General	Classification MS1 according to table 35, line 5 and no stability requirements.	N/A
	Instructional safeguard		N/A
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
8.6.2.3	Downward force test		N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm)		—
	Tilt test		N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test.....:		N/A
8.7	Equipment mounted to wall, ceiling or other structure		N/A
8.7.1	Mount means type		N/A
8.7.2	Test methods		N/A
	Test 1, additional downwards force (N)		N/A
	Test 2, number of attachment points and test force (N).....:		N/A
	Test 3 Nominal diameter (mm) and applied torque (Nm).....:		N/A
8.8	Handles strength		N/A
8.8.1	General		N/A
8.8.2	Handle strength test		N/A
	Number of handles.....:		—
	Force applied (N)		—
8.9	Wheels or casters attachment requirements		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
8.9.2	Pull test		N/A
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N)		N/A
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N)		—
8.10.6	Thermoplastic temperature stability		N/A
8.11	Mounting means for slide-rail mounted equipment (SRME)		N/A
8.11.1	General		N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	Telescoping or rod antennas		N/A
	Button/ball diameter (mm)		—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications		P
9.3	Touch temperature limits		P
9.3.1	Touch temperatures of accessible parts	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
9.3.2	Test method and compliance		P
9.4	Safeguards against thermal energy sources		P
9.5	Requirements for safeguards		P

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Clause	Requirement-Test	Result-Remark	Verdict
9.5.1	Equipment safeguard	Enclosure provided to limit the transfer of thermal energy of internal parts under normal operating conditions and abnormal operating conditions.	P
9.5.2	Instructional safeguard:		N/A
9.6	Requirements for wireless power transmitters		N/A
9.6.1	General		N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance:	(See appended table 9.6)	N/A

10	RADIATION		P
10.2	Radiation energy source classification		P
10.2.1	General classification		P
	Lasers.....:	N/A	—
	Lamps and lamp systems	See 10.4	—
	Image projectors.....:	N/A	—
	X-Ray	N/A	—
	Personal music player	N/A	—
10.3	Safeguards against laser radiation		N/A
	The standard(s) equipment containing laser(s) comply		N/A
10.4	Safeguards against optical radiation from lamps and lamp systems (including LED types)		P
10.4.1	General requirements	For LED indicator, Indicating LED considered as RS1, no safeguards required.	P
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location	Exempt group LED used	P
	Information for safe operation and installation		N/A
10.4.2	Requirements for enclosures		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
	UV radiation exposure	(See Annex C)	N/A
10.4.3	Instructional safeguard		N/A
10.5	Safeguards against X-radiation		N/A
10.5.1	Requirements		N/A
	Instructional safeguard for skilled persons.....:		—
10.5.3	Maximum radiation (pA/kg)	(See appended tables B.3 & B.4)	—
10.6	Safeguards against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A).....:		N/A
	Unweighted RMS output voltage (mV).....:		N/A
	Digital output signal (dBFS)		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30)		N/A
	Warning for MEL ≥ 100 dB(A)		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV)		N/A
10.6.6.2	Corded listening devices with digital input	See below	N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A)		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A)		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.1	General		P
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	P
B.2	Normal operating conditions		P
B.2.1	General requirements.....:	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers	(See Annex E)	N/A
B.2.3	Supply voltage and tolerances		N/A
B.2.5	Input test.....:	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General	(See appended table B.3)	P
B.3.2	Covering of ventilation openings	No ventilation openings	N/A
	Instructional safeguard		N/A
B.3.3	DC mains polarity test	No connected to DC mains	N/A
B.3.4	Setting of voltage selector	No voltage selector	N/A
B.3.5	Maximum load at output terminals	(See appended table B.3)	N/A
B.3.6	Reverse battery polarity	Not possible to reverse the battery polarity.	N/A
B.3.7	Audio amplifier abnormal operating conditions		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remain effective. (See appended table B.3)	P
B.4	Simulated single fault conditions		P
B.4.1	General		P
B.4.2	Temperature controlling device	No such device used.	N/A
B.4.3	Blocked motor test	(See appended table B.3 &B.4)	P
B.4.4	Functional insulation	See the following details.	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.3 &B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.3 &B.4)	P

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Clause	Requirement-Test	Result-Remark	Verdict
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.3 &B.4)	P
B.4.6	Short circuit or disconnection of passive components	(See appended table B.3 &B.4)	P
B.4.7	Continuous operation of components		N/A
B.4.8	Compliance during and after single fault conditions:	No change to circuits classified in 5.3	P
B.4.9	Battery charging and discharging under single fault conditions	(See Annex M)	P
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A
D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Electrical energy source classification for audio signals		N/A
	Maximum non-clipped output power (W)	--	—
	Rated load impedance (Ω)		—
	Open-circuit output voltage (V)		—
	Instructional safeguard.....:		—
E.2	Audio amplifier normal operating conditions		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
	Audio signal source type		—
	Audio output power (W).....		—
	Audio output voltage (V).....		—
	Rated load impedance (Ω)		—
	Requirements for temperature measurement		N/A
E.3	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General		P
	Language	English	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units comply with IEC 60227-1	P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific	Graphic symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Equipment marking is located on the enclosure surface and is easily visible.	P
F.3.2	Equipment identification markings	See the following details.	P
F.3.2.1	Manufacturer identification	See copy of marking plate	P
F.3.2.2	Model identification	See copy of marking plate	P
F.3.3	Equipment rating markings	See the following details.	P
F.3.3.1	Equipment with direct connection to mains	Class III equipment	P
F.3.3.2	Equipment without direct connection to mains	See above.	P
F.3.3.3	Nature of the supply voltage	---	P
F.3.3.4	Rated voltage	See page 6	P
F.3.3.5	Rated frequency	DC supply	N/A
F.3.3.6	Rated current or rated power	See page 6	P
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings:		N/A
F.3.5.2	Switch position identification marking:		N/A
F.3.5.3	Replacement fuse identification and rating markings:		N/A
	Instructional safeguards for neutral fuse:		N/A
F.3.5.4	Replacement battery identification marking:		N/A
F.3.5.5	Neutral conductor terminal		N/A
F.3.5.6	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		N/A
F.3.6.1	Class I equipment	Class III equipment	N/A
F.3.6.1.1	Protective earthing conductor terminal.....:		N/A
F.3.6.1.2	Protective bonding conductor terminals		N/A
F.3.6.2	Equipment class marking		N/A
F.3.6.3	Functional earthing terminal marking		N/A
F.3.7	Equipment IP rating marking	IPX0	N/A
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible. See also the following details.	P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge. After each test, the marking remained legible.	P

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Clause	Requirement-Test	Result-Remark	Verdict
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F.4	Instructions		P
	a) Information prior to installation and initial use	Provided in user manual.	P
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection	Instruction in user manual.	P
	d) Equipment intended for use only in restricted access area	Not used in restricted access area.	N/A
	e) Equipment intended to be fastened in place	Equipment is not intended to be fastened in place.	N/A
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard	Class III equipment.	N/A
	h) Protective conductor current exceeding ES2 limits	Class III equipment.	N/A
	i) Graphic symbols used on equipment		N/A
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		N/A
G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A
G.2	Relays		N/A
G.2.1	Requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
G.2.4	Test method and compliance		N/A
G.3	Protective devices		N/A
G.3.1	Thermal cut-offs		N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors	Considered NTC on EUT	N/A
G.3.4	Overcurrent protection devices		N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....:	(See appended table B.4)	N/A
G.4	Connectors		N/A
G.4.1	Spacings		N/A
G.4.2	Mains connector configuration		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound components		P
G.5.1	Wire insulation in wound components		N/A
G.5.1.2	Protection against mechanical stress		N/A
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
	Test time (days per cycle)		—
	Test temperature (°C)		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		N/A
G.5.3.1	Compliance method		N/A
	Position.....:		N/A
	Method of protection.....:		N/A
G.5.3.2	Insulation		N/A
	Protection from displacement of windings		—
G.5.3.3	Transformer overload tests		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding temperatures		N/A
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors		P
G.5.4.1	General requirements	DC motor tested to comply with relevant requirements within the appliance.	P
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		P
G.5.4.6.2	Tested in the unit		P
	Maximum Temperature	(see appended table B.4)	P
G.5.4.6.3	Alternative method	<42.4Vpeak, or 60Vd.c.	N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		N/A
G.6.1	General		N/A
G.6.2	Enamelled winding wire insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		N/A
	Type.....:		—
G.7.2	Cross sectional area (mm ² or AWG).....:		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm).....:		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, D (mm)		—
	Radius of curvature after test (mm).....:		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	Varistors		N/A
G.8.1	General requirements		N/A
G.8.2	Safeguards against fire		N/A
G.8.2.1	General		N/A
G.8.2.2	Varistor overload test		N/A
G.8.2.3	Temporary overvoltage test		N/A
G.9	Integrated circuit (IC) current limiters		N/A
G.9.1	Requirements		N/A
	IC limiter output current (max. 5A)		—
	Manufacturers' defined drift		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	Resistors		N/A
G.10.1	General		N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	Capacitors and RC units		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
G.11.1	General requirements		N/A
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5 with specifics		N/A
	Type test voltage $V_{ini,a} \dots$:		—
	Routine test voltage, $V_{ini, b} \dots$:		—
G.13	Printed boards		P
G.13.1	General requirements	See follow	P
G.13.2	Uncoated printed boards	Only need to comply with functional insulation, see annex B.4.4	P
G.13.3	Coated printed boards	No such used	N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements	(See Clause G.13)	N/A
G.15	Pressurized liquid filled components		N/A
G.15.1	Requirements		N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
G.16.1	Condition for fault tested is not required		N/A
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test:		—
	Mains voltage that impulses to be superimposed on:		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test:		—
G.16.3	Capacitor discharge test:		N/A
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)		N/A
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
J.1	General		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
	Winding wire insulation.....:		—
	Solid round winding wire, diameter (mm).....:		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm ²)		N/A
J.2/J.3	Tests and Manufacturing	(See separate test report)	—
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
K.5.1	Under single fault condition		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm)		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm)		N/A
	Electric strength test before and after the test of K.7.2	(See appended table 5.4.9)	N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		N/A
L.1	General requirements		N/A
L.2	Permanently connected equipment		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
L.3	Parts that remain energized		N/A
L.4	Single-phase equipment		N/A
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		N/A
	Instructional safeguard.....:		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		P
M.1	General requirements		P
M.2	Safety of batteries and their cells		P
M.2.1	Batteries and their cells comply with relevant IEC standards.....:	The cells comply with IEC 62133-2. (See appended table 4.1.2)	P
M.3	Protection circuits for batteries provided within the equipment	Safeguards considered during charging and discharging cycles as determined for expected and foreseeable use according to the user instructions.	P
M.3.1	Requirements		P
M.3.2	Test method		P
	Overcharging of a rechargeable battery		P
	Excessive discharging		P
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery	Because of the limitation of structure, Reverse charging is impossible.	N/A
M.3.3	Compliance	No chemical leakage, no spillage of liquid, no explosion of the battery, no emission of flame or expulsion of molten metal.	P
M.4	Additional safeguards for equipment containing a portable secondary lithium battery		P
M.4.1	General		P

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Clause	Requirement-Test	Result-Remark	Verdict
M.4.2	Charging safeguards		P
M.4.2.1	Requirements		P
M.4.2.2	Compliance:	(See appended table M.4.2)	P
M.4.3	Fire enclosure.....:	V-0 plastic enclosure and metal enclosure used	P
M.4.4	Drop test of equipment containing a secondary lithium battery		P
M.4.4.2	Preparation and procedure for the drop test		P
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%)::	Three impacts at the height of 1000mm, the voltage difference not exceed 5% after test.	P
M.4.4.4	Check of the charge/discharge function		P
M.4.4.5	Charge / discharge cycle test		P
M.4.4.6	Compliance		P
M.5	Risk of burn due to short-circuit during carrying		P
M.5.1	Requirement	No bare part of battery can be exposed during use. The battery is assembled inside the unit.	P
M.5.2	Test method and compliance		N/A
M.6	Safeguards against short-circuits		P
M.6.1	External and internal faults	The battery complied with IEC 62133-2 which is considered the internal fault tests. No such explosion or fire likely to result from short circuits.	P
M.6.2	Compliance		P
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m ³ /h).....:		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%).....:		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%).....:		N/A
M.7.4	Marking.....:		N/A
M.8	Protection against internal ignition from external spark sources of batteries with aqueous electrolyte		N/A
M.8.1	General		N/A
M.8.2	Test method		N/A
M.8.2.1	General		N/A
M.8.2.2	Estimation of hypothetical volume V_Z (m^3/s)		—
M.8.2.3	Correction factors		—
M.8.2.4	Calculation of distance d (mm)		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse	Provided the instructions include battery charging, storage and transportation, and disposal and recycling.	P
	Instructional safeguard		N/A
N	ELECTROCHEMICAL POTENTIALS		N/A
	Material(s) used.....:		—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		N/A
	Value of X (mm)		—

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Clause	Requirement-Test	Result-Remark	Verdict
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		N/A
P.1	General	No openings	N/A
P.2	Safeguards against entry or consequences of entry of a foreign object		N/A
P.2.1	General		N/A
P.2.2	Safeguards against entry of a foreign object		N/A
	Location and Dimensions (mm)		—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A
	Transportable equipment with metalized plastic parts.....:		N/A
P.2.3.2	Consequence of entry test		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	Metallized coatings and adhesives securing parts		N/A
P.4.1	General		N/A
P.4.2	Tests		N/A
	Conditioning, T _C (°C)		—
	Duration (weeks)		—
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		P
Q.1.1	Requirements		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output	(See appended table Q.1)	P

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Clause	Requirement-Test	Result-Remark	Verdict
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance	(See appended table Q.1)	P
	Current rating of overcurrent protective device (A):		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		N/A
	Current limiting method		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General		N/A
R.2	Test setup		N/A
	Overcurrent protective device for test		—
R.3	Test method		N/A
	Cord/cable used for test		—
R.4	Compliance		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material.....:		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material.....:		—
	Wall thickness (mm)		—
	Conditioning (°C)		—

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Clause	Requirement-Test	Result-Remark	Verdict
S.3	Flammability test for the bottom of a fire enclosure		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples		—
	Wall thickness (mm)		—
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W		N/A
	Samples, material.....:		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
T	MECHANICAL STRENGTH TESTS		P
T.1	General		P
T.2	Steady force test, 10 N	(See appended table T.2)	N/A
T.3	Steady force test, 30 N	(See appended table T.3)	N/A
T.4	Steady force test, 100 N	(See appended table T.4)	N/A
T.5	Steady force test, 250 N	(See appended table T.5)	P
T.6	Enclosure impact test	(See appended table T.6)	P
	Fall test		P
	Swing test		N/A
T.7	Drop test	(See appended table T.7)	P
T.8	Stress relief test	(See appended table T.8)	P
T.9	Glass Impact Test	(See appended table T.9)	N/A
T.10	Glass fragmentation test		N/A
	Number of particles counted.....:		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General		N/A
	Instructional safeguard :		N/A
U.2	Test method and compliance for non-intrinsically protected CRTs		N/A
U.3	Protective screen		N/A
V	DETERMINATION OF ACCESSIBLE PARTS		N/A
V.1	Accessible parts of equipment		N/A
V.1.1	General		N/A
V.1.2	Surfaces and openings tested with jointed test probes		N/A
V.1.3	Openings tested with straight unjointed test probes		N/A
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		N/A
V.2	Accessible part criterion		N/A
X	ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)		N/A
	Clearance: (See appended table X)		N/A
Y	CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES		N/A
Y.1	General		N/A
Y.2	Resistance to UV radiation		N/A
Y.3	Resistance to corrosion		N/A
Y.3	Resistance to corrosion		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by:		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure.....:		N/A
Y.3.5	Compliance		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
Y.4	Gaskets		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods.....:		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means	(See Annex P.4)	N/A
Y.5	Protection of equipment within an outdoor enclosure		N/A
Y.5.1	General		N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3.....:		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	Mechanical strength of enclosures		N/A
Y.6.1	General		N/A
Y.6.2	Impact test.....:	(See Table T.6)	N/A

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Clause	Requirement-Test	Result-Remark	Verdict

ATTACHMENT TO TEST REPORT

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(AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES

(Audio/video, information and communication technology equipment)

Differences according to: AS/NZS 62368.1:2022**TRF template used:** : IEC62368-1:2022**Attachment Form No.**: AU_NZ_ND_62368_1E**Attachment Originator**: JAS-ANZ**Master Attachment**: 2022-07-01

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	National Differences	P
Appendix ZZ	Variations to IEC 62368-1:2018 (ED. 3.0) for Australia and New Zealand	P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2018 (ED. 3.0)	P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:	P
2	<p>After the first paragraph, add the following:</p> <p>The Australian or Australian/New Zealand Standards listed below are modified adoptions of, or not equivalent to, the IEC normative references and are required for the application of this Standard. All references in the source text to those IEC normative references shall be replaced by references to the corresponding Australian or Australian/New Zealand Standards. Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably</p> <ul style="list-style-type: none"> -AS/NZS 3112, <i>Approval and test specification—Plugs and socket-outlets</i> -AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i> -AS/NZS 3191, <i>Electric flexible cords</i> -AS/NZS 60884.1. Plugs and socket-outlets for 	P

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Clause	Requirement-Test	Result-Remark	Verdict
	<p><i>household and similar purposes, Part 1: General requirements</i></p> <p>-IEC 60086-2 <i>Primary batteries — Part 2: Physical and electrical specifications</i></p> <p>-AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i></p> <p>-AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)</i></p> <p>-AS/NZS 60320.2.2, <i>Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i></p> <p>-AS/NZS 60695.2.11, <i>Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i></p> <p>-AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i></p> <p>-AS/NZS 60695.11.10, <i>Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i></p> <p>-AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i></p> <p>-AS/NZS 60950.1, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i></p> <p>IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i></p> <p>-AS/NZS 61558.1, <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 3, MOD)</i></p> <p>-AS/NZS 61558.2.16, <i>Safety of transformers, reactors, power supply units and similar</i></p>		

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Clause	Requirement-Test	Result-Remark	Verdict
	<i>products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i>		
4.7.2	<p>Requirements</p> <p><i>Delete</i> the text of the second paragraph and <i>replace</i> with the following:</p> <p>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet conforming to AS/NZS 3112, shall conform to the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</p> <p>Conformity is checked by inspection and, if necessary, by the tests in AS/NZS 3112.</p> <p>NOTE: Equipment with plug portions for use in countries other than Australia and New Zealand will need to conform to other countries' requirements</p> <p>Note Additional AS/NZS 3112 Appendix J,TRF is appended to end of this TRF.</p>		N/A
4.7.3	<p>Compliance Criteria</p> <p><i>Delete</i> this clause</p>		N/A
4.8.1	<p>General</p> <p>After second list, <i>add</i> the following:</p> <p>NOTE: Refer to the Consumer Goods (Products Containing Button/Coin Batteries) Safety Standard 2020 and Consumer Goods (Products Containing Button/Coin Batteries) Information Standard 2020 for more information on button cell batteries in Australia..</p>		N/A
5.4.10.2.1	<p>General</p> <p><i>Delete</i> the first paragraph and <i>replace</i> with the following:</p> <p>In Australia, the separation is checked by the test given in both Clause 5.4.10.2.2 and Clause 5.4.10.2.3.</p> <p>In New Zealand, the separation is checked by the test given in either 5.4.10.2.2 or 5.4.10.2.3..</p>		N/A
Table 28	<i>Delete</i> Table 28 and <i>replace</i> with the following:		N/A

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Clause	Requirement-Test	Result-Remark		Verdict
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Parts	Impulse test		Steady state test		
	New Zealand	Australia	New Zealand	Australia	
Parts indicated in Clause 5.4.10.1 a) ^a	2.5 kV	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment.	1.5 kV	3 kV	
Parts indicated in Clause 5.4.10.1 b) and c) ^b	1.5 kV ^c		1.0 kV	1.5 kV	
<p>^a Surge suppressors shall not be removed.</p> <p>^b Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment.</p> <p>^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.</p>					
5.4.10.2.2	<p><i>Delete “NOTE” and replace with “NOTE 1”.</i></p> <p>After NOTE 1, <i>add the following:</i></p> <p>NOTE 2: For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines.</p> <p>NOTE 3: For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.</p>				N/A
5.4.10.2.3	<p><i>Delete “NOTE” and replace with “NOTE 1”.</i></p> <p>After NOTE 1, <i>add the following:</i></p> <p>NOTE 2: For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.</p> <p>NOTE 3: The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.</p>				N/A
6	Electrically-caused fire				P
6.6	<p>After Clause 6.6, <i>add the new Clauses 6.201 as follows:</i></p> <p>6.201 External power supplies, docking stations and other similar devices (see special national conditions)</p>				P
8.6	Stability of equipment				N/A
Table 36	Footnote ^a , after first sentence, <i>add the following:</i> Equipment having displays with moving images shall include “television sets and display devices”.				N/A

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Clause	Requirement-Test	Result-Remark	Verdict
8.6.1	After Clause 8.6.1 <i>add</i> the following new clauses: 8.6.201 Restraining Device fixing point (see special national conditions) 8.6.202 Restraining device (see special national conditions)		N/A
Annex F Paragraph F.3.4	Rated Voltage <i>Delete</i> “NOTE” and <i>replace</i> with NOTE1” After NOTE 1, <i>add</i> the following Equipment that is intended for connection to the supply mains in Australia and New Zealand shall be marked with: (a) A rated voltage of: <ul style="list-style-type: none">• 230 V for single phase equipment• 400 V for poly phase equipment Or (b) A rated voltage range that includes: <ul style="list-style-type: none">• 230 V for single phase equipment• 400 V for poly phase equipment NOTE 2: equipment that is not rated as above is not suitable for direct connection to the supply mains in Australia or New Zealand.		N/A
Annex F.3.5	After the list, <i>add</i> the following Equipment that is intended for connection to supply mains in Australia or New Zealand shall be marked with a rated frequency of 50 Hz or a rated frequency range or nominal value which includes 50Hz		N/A
Annex F.3.8	After “The DC output of an external power supply”, insert ”or docking stations and other similar external devices”		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
Annex G Paragraph G.4.2	Mains connectors 1 After "IEC 60320", insert "or AS/NZS 60320 series". 2 After "IEC 60906-1", insert "or AS/NZS 3123" 3 After first paragraph add the following: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		N/A
Paragraph G.5.3.1	Transformers, General 1 Third dashed point replace 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2' 2 Fourth dashed point replace 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		N/A
Annex G.7.1	Mains supply cords, General Fourth dashed paragraph, replace 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Table G.7	Sizes of conductors 1 First column, second row, delete "6" and replace with "7.5" 2 Second column, second row, delete '0,75' and replace with '0.75 ^b ' 3 Delete NOTE 1. 4 Replace 'NOTE 2' with 'NOTE:'. 5 Delete 'Footnote b' and replace with the following: ^b This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm ² three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 Footnote c replace 'IEC 60320-1' with 'AS/NZS 60320.1' 7 Footnote d replace 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Annex M M 2.1	Add "IEC 60086-2" to the list		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
Annex M Paragraph M.3.2	<p>Test method</p> <p>Delete "NOTE" and replace with "NOTE 1"</p> <p>After NOTE 1 <i>add</i> the following:</p> <p>NOTE 2: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of ES1 may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.</p>		N/A
	Special national conditions (if any)		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
6.201	<p>External power supplies, docking stations and other similar devices</p> <p>For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage—</p> <ul style="list-style-type: none"> (a) at all ES1 outlets or connectors shall not increase by more than 10 % of the output rated voltage under normal operating conditions, measured after 3 s of introducing a single fault condition and after 3 s of introducing abnormal operating conditions; and (b) of a USB outlet or connector shall not increase by more than 3 V or 10 % of the output rated voltage under normal operating conditions, whichever is higher, measured after 3 seconds of introducing a single fault condition and after 3 s of introducing abnormal operating conditions <p>For equipment with multiple rated voltages at the output, the requirements apply with the equipment configured for each output rated voltage in turn</p> <p>NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. The 3 s measurement delay is based on IEC document 108/742/INF, <i>TC 108, Standards Interpretation Panel Question 15 — Output voltage</i>, in relation to similar requirements in IEC 62368-3:2017.</p> <p>Conformity shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single fault conditions of Annex B.4.</p>	Considered	P

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Clause	Requirement-Test	Result-Remark	Verdict
8.6.201	<p>Restraining device fixing point</p> <p>Freestanding-capable MS2 and MS3 television sets and display devices shall be provided with a fixing point to facilitate the anchoring of the equipment from toppling</p> <p>The fixing point shall conform to Clause 8.7 where the fixing point uses a wall, ceiling or other structure mount. Alternatively, the fixing point shall be capable of withstanding a pull equal to the mass of the equipment in all directions without damage</p> <p>Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point</p>		N/A
8.6.202	<p>Restraining device</p> <p>MS2 and MS3 television sets and display devices shall be provided with a restraining device and associated hardware to attach to the television set or display device.</p> <p>The restraining device shall be capable of withstanding a pull equal to the mass of the equipment in all directions.</p> <p>Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point</p> <p>.</p>		N/A

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Clause	Requirement-Test	Result-Remark	Verdict
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5.2		TABLE: Classification of electrical energy sources					P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type ¹⁾	Additional Info ²⁾	
5.0Vd.c.	Charge circuit/port	Normal	5.0Vd.c.	--	--	--	ES1
8.5Vd.c	Output of battery pack cell “-” and “+”	Normal	8.38Vd.c	--	--	--	ES1

Supplementary information:

1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.
 2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.

5.4.1.8		TABLE: Working voltage measurement				N/A
Location		RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments	
--	--	--	--	--	--	
--	--	--	--	--	--	

Supplementary information:

5.4.1.10.2		TABLE: Vicat softening temperature of thermoplastics			N/A
Method.....		ISO 306 / B50			—
Object/ Part No./Material	Manufacturer/trademark	Thickness (mm)	T softening (°C)		
--	--	--	--	--	
--	--	--	--	--	

Supplementary information:

5.4.1.10.3		TABLE: Ball pressure test of thermoplastics			N/A
Allowed impression diameter (mm).....		≤ 2 mm			—
Object/Part No./Material	Manufacturer/trademark	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)	

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Clause	Requirement-Test	Result-Remark		Verdict
--	--	--	--	--
--	--	--	--	--
Supplementary information:				

5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance								N/A
Clearance (cl) and creepage distance (cr) at/of/between:	U _p (V)	U _{rms} (V)	Freq ¹⁾ (Hz)	Required cl (mm)	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)	
--	--	--	--	--	--	--	--	--	
Supplementary information:									
1) Only for frequency above 30 kHz 2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied)									

5.4.4.2	TABLE: Minimum distance through insulation						N/A
Distance through insulation (DTI) at/of	Peak voltage (V)		Insulation		Required DTI (mm)	Measured DTI (mm)	
--	--		--		--	--	
Supplementary information:							

5.4.4.9	TABLE: Solid insulation at frequencies >30 kHz						N/A
Insulation material	E _P	Frequency (kHz)	K _R	Thickness d (mm)	Insulation	V _{PW} (Vpk)	
--	--	--	--	--	--	--	
Supplementary information:							

5.4.9	TABLE: Electric strength tests				N/A
Test voltage applied between:	Voltage shape (Surge, Impulse, AC, DC, etc.)		Test voltage (V)	Breakdown Yes / No	

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Clause	Requirement-Test	Result-Remark	Verdict	
--	--	--	--	--
--	--	--	--	--
Supplementary information:				

5.5.2.2	TABLE: Stored discharge on capacitors					N/A
Location		Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class
--	--	--	--	--	--	--
Supplementary information:						
X-capacitors installed for testing: <input type="checkbox"/> bleeding resistor rating: <input type="checkbox"/> ICX: 1) Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit						

5.6.6	TABLE: Resistance of protective conductors and terminations					N/A
Location		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
--	--	--	--	--	--	--
Supplementary information:						

5.7.4	TABLE: Unearthed accessible parts					N/A
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V_{rms} or V_{pk})	Current (A_{rms} or A_{pk})	Freq. (Hz)	
--	--	--	--	--	--	--
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						

5.7.5	TABLE: Earthed accessible conductive part					N/A
Supply voltage (V)						—

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Clause	Requirement-Test	Result-Remark	Verdict
Phase(s)	[] Single Phase; [] Three Phase: [] Delta [] Wye		
Power Distribution System	[] TN [] TT [] IT		
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment
--	--	--	--
Supplementary Information:			

5.8	TABLE: Backfeed safeguard in battery backed up supplies						N/A
Location	Supply voltage (V)	Operating and fault condition	Time (s)	Open-circuit voltage (V)	Touch current (A)	ES Class	
--	--	--	--	--	--	--	--
Supplementary information:							
Abbreviation: SC= short circuit, OC= open circuit							

6.2.2	TABLE: Power source circuit classifications						P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power ¹⁾ (W)	Time (S)	PS class	
External power source	--	--	--	--	--	PS2*	
Output of battery pack	Normal condition	7.60	5.19	39.20	5	PS2	
Output of battery pack	Q6 pin D- S SC	7.62	5.19	39.32	5	PS2	
Output of battery pack	Q4 pin D- S SC	7.59	5.17	39.11	5	PS2	
Output of battery pack	Q1 pin D- S SC	7.61	5.20	39.45	5	PS2	
Output of battery pack	R5 SC	7.57	5.18	39.04	5	PS2	
Output of battery pack	R21 SC	7.57	5.19	39.18	5	PS2	
Battery cell	Normal condition	4.89	51.44	250.01	5	PS3	
Type-C output	Normal condition	0	0	0	3	PS1	

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Clause	Requirement-Test	Result-Remark			Verdict
Type-C output	Q6 pin D- S SC	0	0	0	3 PS1
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit					
1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.					
*The EUT is recharged by external power source via USB port, PS1 PS2 circuit assumed.					

6.2.3.1	TABLE: Determination of Arcing PIS				N/A
Location		Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No
See below		--	--	--	--
Supplementary information:					

6.2.3.2	TABLE: Determination of resistive PIS				P		
Location		Operating and fault condition	Dissipate power (W)		Arcing PIS? Yes / No		
Internal battery cell		O-L	250.01		Yes		
Internal circuit/ component		--	--		Yes (declared)		
Supplementary information:							
Abbreviation: SC= short circuit; OC= open circuit							

8.5.5	TABLE: High pressure lamp				N/A
Lamp manufacturer	Lamp type	Explosion method	Longest axis of glass particle (mm)	Particle found beyond 1 m	Yes / No
Supplementary information:					

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Clause	Requirement-Test	Result-Remark	Verdict
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9.6	TABLE: Temperature measurements for wireless power transmitters								N/A
Supply voltage (V)									—
Max. transmit power of transmitter (W).....:									—
Foreign objects	w/o receiver and direct contact		with receiver and direct contact		with receiver and at distance of 2 mm		with receiver and at distance of 5 mm		
	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	
Supplementary information:									

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements						P		
Supply voltage (V)	5.0Vd.c. Charging with empty battery			8.5Vd.c. Discharging with fully charged battery		—			
Ambient temperature during test T_{amb} (°C) .:	See below		See below		See below		—		
Maximum measured temperature T of part/at:	T (°C)					Allowed T_{max} (°C)			
Internal component part									
PCB near U1A	32.3		63.7		32.0		130		
PCB near U4A	30.1		61.5		33.1		130		
PCB near U8A	34.1		65.5		33.7		130		
PCB near U2A	31.8		63.2		31.4		130		
Battery surface	26.5		57.9		27.4		--		
Metal enclosure (inside near battery)	26.0		57.4		26.1		57.1		
Metal enclosure (inside near PCB)	26.4		57.8		26.2		Ref.		
Ambient	23.6		55.0		24.0		--		
Touch Temperatures									
Metal enclosure (outside near PCB)	25.5		26.9		25.3		48		
Metal enclosure (outside near battery)	25.1		26.5		24.8		48		

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Clause	Requirement-Test			Result-Remark		Verdict
Button (side)		24.2	25.6	24.4	25.4	77
Handle		23.8	25.2	24.2	25.2	48
Ambient		23.6	25.0	24.0	25.0	--
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)
Supplementary information:						
Supplementary information: * Temperature limit for TS1 of accessible enclosure according to Table 38.						
Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (Tma) of 55°C.						
Note 2: The temperatures were measured under the worst case normal mode defined in clause B.2.1.						

B.2.5		TABLE: Input test							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
5VDC	--	0.97	--	4.85	--	--	--	Max. normal operating with empty battery. Battery charging current: 0.97 A	
8.5VDC (Fully charged battery)	--	0.54	--	4.59	--	--	--	Discharging mode: Max. normal operating with full-charged battery	
Supplementary information:									

B.3, B.4		TABLE: Abnormal operating and fault condition tests						P
Ambient temperature T _{amb} (°C)		See follow						—
Power source for EUT: Manufacturer, model/type, outputrating :		--						—
Component No.		Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	

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Clause	Requirement-Test				Result-Remark		Verdict
Type C Port	150% voltage	5.0*1.50= 7.5V	10mins	--	--	Input current:0A Battery charging current: Max.0A No damaged, No hazard.	
DC motor	L-R	8.5VDC full charged battery	7hrs	--	--	Discharging mode : Unit normally working, Battery discharging current: 0.54A→0.63A No High Temperature, Temperature measured: Metal enclosure (outside near PCB): 28.9°C Metal enclosure (outside near battery): 27.7 °C Button (side): 27.3 °C Handle: 26.7 °C Ambient: 23.7 °C No damaged, No hazard.	
Battery	Over charge	5.0VDC	7hrs	--	--	Battery over charging current: Max. 0.003A, Temperature measured: Battery Surface: 25.8 °C Ambient: 23.6 °C No High Temperature, No damaged. No hazard.	
Battery	Over discharge	8.5VDC full charged battery	7hrs	--	--	EUT normal operating, Battery discharging current: 0.706A max temperature : Battery surface: 27.8 °C Ambient: 22.8 °C No damaged, No hazard.	

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Clause	Requirement-Test				Result-Remark		Verdict
Battery P+ to P-	S-C	5.0VDC	10mins	--	--	Unit shutdown, immediately, recoverable, no hazard.	
Battery P+ to P-	S-C	8.5VDC full charged battery	10mins	--	--	Unit shutdown, immediately, recoverable, no hazard.	
Q4 pin D- S	S-C	5.0VDC	10mins	--	--	Unit normally working, Input current: 0.97A→0.83A Battery charging current: 0.97A→0.78A No damaged. No hazard.	
Q1 pin D- S	S-C	5.0VDC	10mins	--	--	Unit normally working, Input current:0.97A→0.82A Battery charging current:0.97A→0.80A No damaged. No hazard.	
U1 pin5-3	S-C	5.0VDC	10mins	--	--	Unit normally working, Input current:0.97A→0.81A Battery charging current:0.97A→0.80A No damaged. No hazard.	
Battery (R5 SC)	SC	5.0VDC	10mins	--	--	Unit normally working, Input current:0.97A→0.85A Battery charging current: 0.97A→0.82A No damaged. No hazard.	
Battery (R21 SC)	SC	5.0VDC	10mins	--	--	Unit normally working, Input current:0.97A→0.85A Battery charging current: 0.97A→0.82A No damaged. No hazard.	
U1 pin 5- 2	S-C	8.5VDC full	10mins	--	--	Discharging mode :	

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Clause	Requirement-Test			Result-Remark		Verdict
		charged battery				Unit normally working, Battery discharging current: 0.54A→0.53A No damaged, No hazard.
Q4 pin D- S	S-C	8.5VDC full charged battery	10mins	--	--	Discharging mode : Unit normally working, Battery discharging current: 0.54A→0.53A No damaged, No hazard.
Q1 pin D- S	S-C	8.5VDC full charged battery	10mins	--	--	Discharging mode : Unit normally working, Battery discharging current:0.54A→0.52A No damaged, No hazard.
Battery (R5 SC)	S-C	8.5VDC full charged battery	10mins	--	--	Discharging mode : Unit normally working, Battery discharging current:0.54A→0.53A No damaged, No hazard.
Battery (R21 SC)	S-C	8.5VDC full charged battery	10mins	--	--	Discharging mode : Unit normally working, Battery discharging current: 0.54A→0.53A No damaged, No hazard.
Supplementary information:						

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Clause	Requirement-Test	Result-Remark	Verdict
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M.3	TABLE: Protection circuits for batteries provided within the equipment					P			
Is it possible to install the battery in a reverse polarity position?..:	Impossible			—					
Equipment Specification	Charging								
	Voltage (V)			Current (A)					
	5.0V			/					
Manufacturer/type	Battery specification								
	Non-rechargeable batteries		Rechargeable batteries						
	Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse charging current (A)			
Jiade Energy Technology (Zhuhai) Co., Ltd. / JKON	--	--	8.5	2.0	3.0	¹⁾			
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.									
Specified battery temperature (°C).....:				0- 45					
Component No.	Fault condition	Charge/ discharge mode	Test time	Temp. (°C)	Current (A) ²⁾	Voltage (V)	Observation		
JKON	Normal	Charge	7h	Cell:26.5 Ambient: 23.6	0.97	8.38	NL,NS,NE,NF		
JKON	Normal	Discharge	7h	Cell:27.4 Ambient: 24.0	0.54	8.38	NL,NS,NE,NF		
JKON	fault -SC Q6 pin D- S on battery	Charge	7h	Cell:26.7 Ambient: 22.8	0.77	8.38	NL,NS,NE,NF		
JKON	fault -SC Q6 pin D- S on battery	Discharge	7h	Cell:27.5 Ambient: 23.6	0.52	8.38	NL,NS,NE,NF		
JKON	fault -SC Q4 pin D- S on battery	Charge	7h	Cell:26.2 Ambient: 22.3	0.78	8.38	NL,NS,NE,NF		

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Clause	Requirement-Test			Result-Remark			Verdict
JKON	fault -SC Q4 pin D- S on battery	Discharge	7h	Cell:27.6 Ambient: 24.0	0.53	8.38	NL,NS,NE,NF
JKON	fault -SC Q1 pin D- S on battery	Charge	7h	Cell:26.5 Ambient: 22.9	0.80	8.38	NL,NS,NE,NF
JKON	fault -SC Q1 pin D- S on battery	Discharge	7h	Cell:27.0 Ambient: 23.7	0.52	8.38	NL,NS,NE,NF
JKON	fault -SC R5 on battery	Charge	7h	Cell:27.0 Ambient: 23.1	0.82	8.38	NL,NS,NE,NF
JKON	fault -SC R5 on battery	Discharge	7h	Cell:27.5 Ambient: 24.2	0.53	8.38	NL,NS,NE,NF
CS108B							
Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.							
1) The rechargeable Li-ion battery/cells cannot be reversed due to the design of enclosure. 2) Maximum Charging current (A) measured under unit power OFF, but maximum temperature measured under unit power ON.							

M.4.2	TABLE: Charging safeguards for equipment containing a secondary lithium battery					P
Battery manufacturer/type	Operating and fault	Measurement			Observation	
		Charging	Charging	Temp.		

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Clause	Requirement-Test	Result-Remark			Verdict
Jiade Energy Technology (Zhuhai) Co., Ltd. / JKON	Normal	8.38	0	Cell #: 45.0°C Ambient: 45.3°C	High temperature, stop charging, no damaged, no hazard.
Jiade Energy Technology (Zhuhai) Co., Ltd. / JKON	Normal	8.38	0	Cell #: 0°C Ambient: -0.8°C	Low temperature normal charging, current decreases, Charger current 0mA < 150mA no damaged, no hazard.
Jiade Energy Technology (Zhuhai) Co., Ltd. / JKON	Single fault - Q6 pin D- S on battery	8.38	0	Cell #: 45.0°C Ambient: 45.1°C	High temperature, stop charging, no damaged, no hazard.
Jiade Energy Technology (Zhuhai) Co., Ltd. / JKON	Single fault - Q6 pin D- S on battery	8.38	0	Cell #: 0°C Ambient: -0.3°C	Low temperature normal charging, current decreases, Charger current 0mA < 150mA no damaged, no hazard.
Jiade Energy Technology (Zhuhai) Co., Ltd. / JKON	Single fault RT1 on battery	8.38	0	Cell #: 45.0°C Ambient: 45.2°C	High temperature, stop charging, no damaged, no hazard.
Jiade Energy Technology (Zhuhai) Co., Ltd. / JKON	Single fault RT1 on battery	8.38	0	Cell #: 0°C Ambient:	Low temperature normal charging, current decreases, Charger current 0mA < 150mA

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Clause	Requirement-Test	Result-Remark			Verdict
			-0.3°C		no damaged, no hazard.
Jiade Energy Technology (Zhuhai) Co., Ltd. / JKON	Single fault RT1 on battery	8.38	0.97	Test at room temperature	Charging but not exceed specified current.(Specified max.charging current at 15-35°C: 2000mA
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature					

Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)						P
Output Circuit	Condition	U _{oc} (V)	Time (s)	I _{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
Type-C output	Normal condition	0	0	8.0	0	100	100
Type-C output	Q6 pin D- S SC	0	0	8.0	0	100	100
Supplementary Information:							

T.2, T.3, T.4, T.5	TABLE: Steady force test						P
Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation	
Top enclosure	Plastic	2.0	--	250	5	Enclosure remained intact, no crack/ opening developed. No insulation breakdown.	
Side enclosure	Metal	1.44	--	250	5	Enclosure remained intact,	

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Clause	Requirement-Test	Result-Remark			Verdict	
					no crack/ opening developed. No insulation breakdown.	
Bottom enclosure	Metal	1.55	--	250	5	Enclosure remained intact, no crack/ opening developed. No insulation breakdown.
Supplementary information:						

T.6, T.9	TABLE: Impact test				P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation	
Top enclosure	Plastic	2.0	1300	Enclosure remained intact, no crack/ opening developed. No hazard.	
Side enclosure	Metal	1.44	1300	Enclosure remained intact, no crack/ opening developed. No hazard.	
Bottom enclosure	Metal	1.55	1300	Enclosure remained intact, no crack/ opening developed. No hazard.	
Supplementary information:					

T.7	TABLE: Drop test				P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation	
Internal battery cell	--	--	1000	- The open circuit voltage during 24-hour period after drop: 8.36V; Open circuit voltage before drop: 8.38V;	

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Clause	Requirement-Test	Result-Remark	Verdict
			Difference: 0.23%. - All charge/discharge functions were functional and did continue to operate. - No fire or explosion of the battery. All safeguard remains effective.
Supplementary information:			

T.8	TABLE: Stress relief test					P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure	Plastic	2.0	70	7	Enclosure remained intact, no crack/opening developed. No hazard.	
Supplementary information:						

X	TABLE: Alternative method for determining minimum clearances distances			N/A
Clearance distanced between:	Peak of working voltage (V)	Required cl (mm)	Measured cl (mm)	
Supplementary information:				

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Clause	Requirement-Test	Result-Remark	Verdict
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4.1.2 TABLE: Critical components information						P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
PCB	KINGBOARD LAMINATES HOLDINGS LTD	KB-6160A	V-1, 130°C;	UL 94 UL 796	UL E123995	
Plastic enclosure	SABIC INNOVATIVE PLASTICS US LLC	945 (GG)	Min. V-0, 120°C; Min.thickness:2.0mm	UL 94 UL 746	UL E121562	
Rechargeable Li-ion Polymer Battery	Jiade Energy Technology (Zhuhai) Co., Ltd.	JKON	Rated: 7.2Vdc, 2480mAh, 17.85Wh Input: 5Vdc, 2.0A	IEC 62133-2: 2017	Tested by FGTEST Report No.: S20210831376 10101	
Internal wire	Interchangeable	Interchangeable	5V, VW-1, 60°C	UL758	UL	
DC Motor	TRICORE (CHINA) CORPORATION	11BFP1518003	Rated: 4.5Vdc, Rated-Load Current: 430mA (max)	IEC/EN 62368-1	Tested with appliance	
Supplementary information:						
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.						

6 Product Marking Label



Label of main unit

7 PHOTO DOCUMENT



Figure 1. Overall view



Figure 2. Overall view

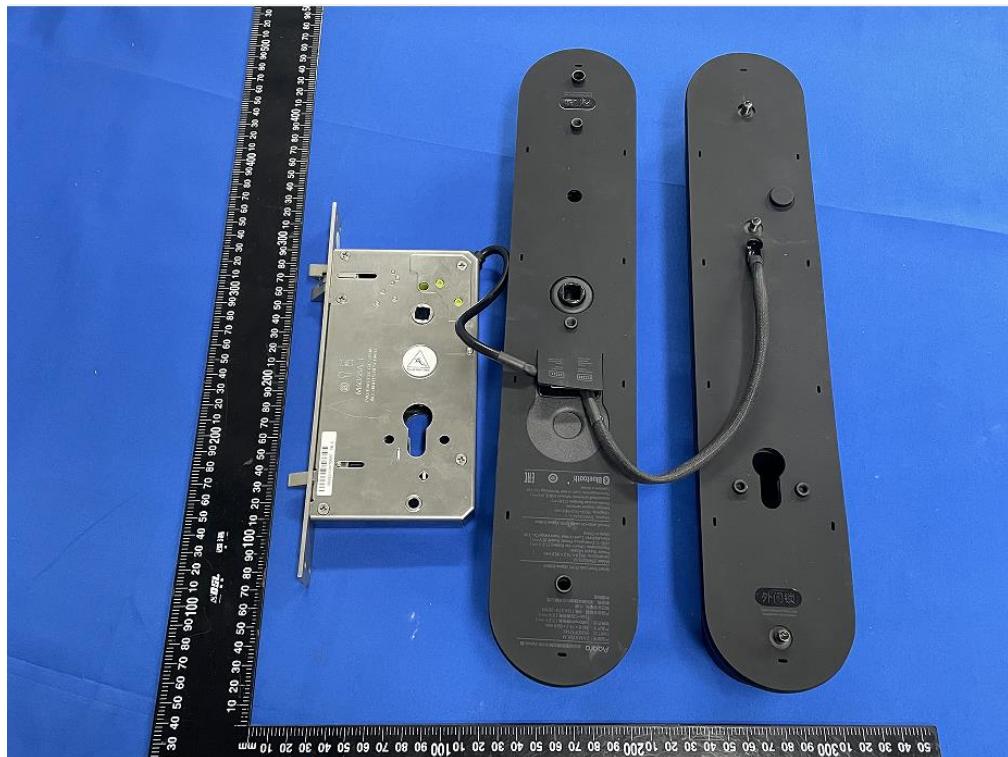


Figure 3. Overall view



Figure 4. Overall view

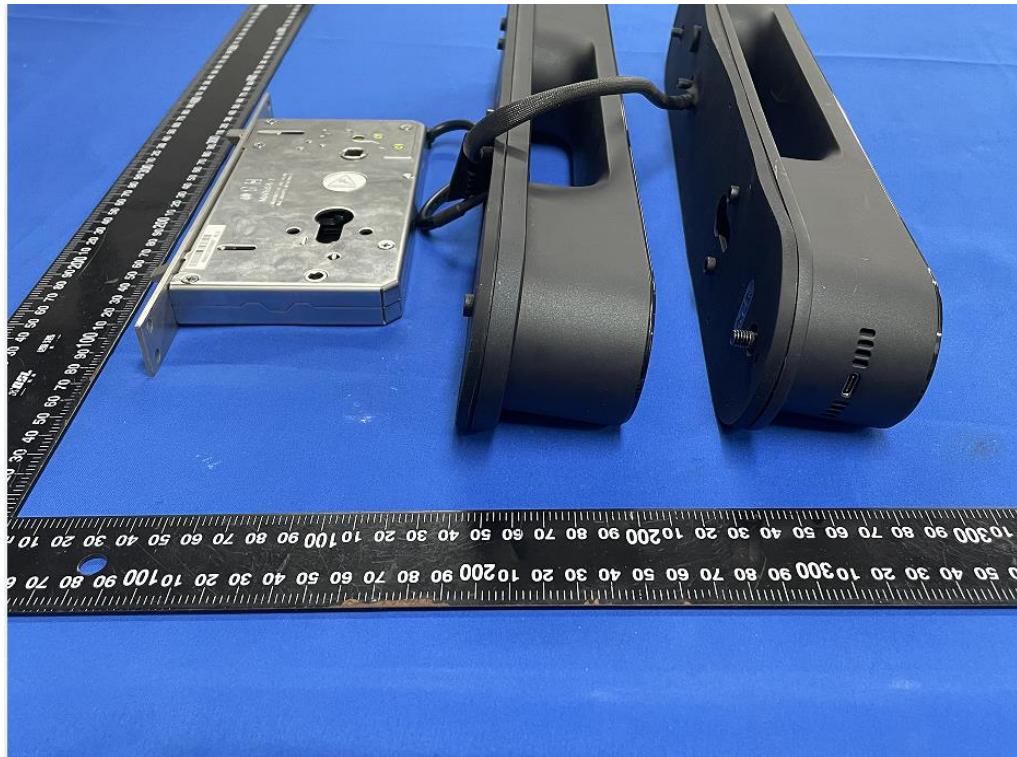


Figure 5. Port view



Figure 6. Internal view

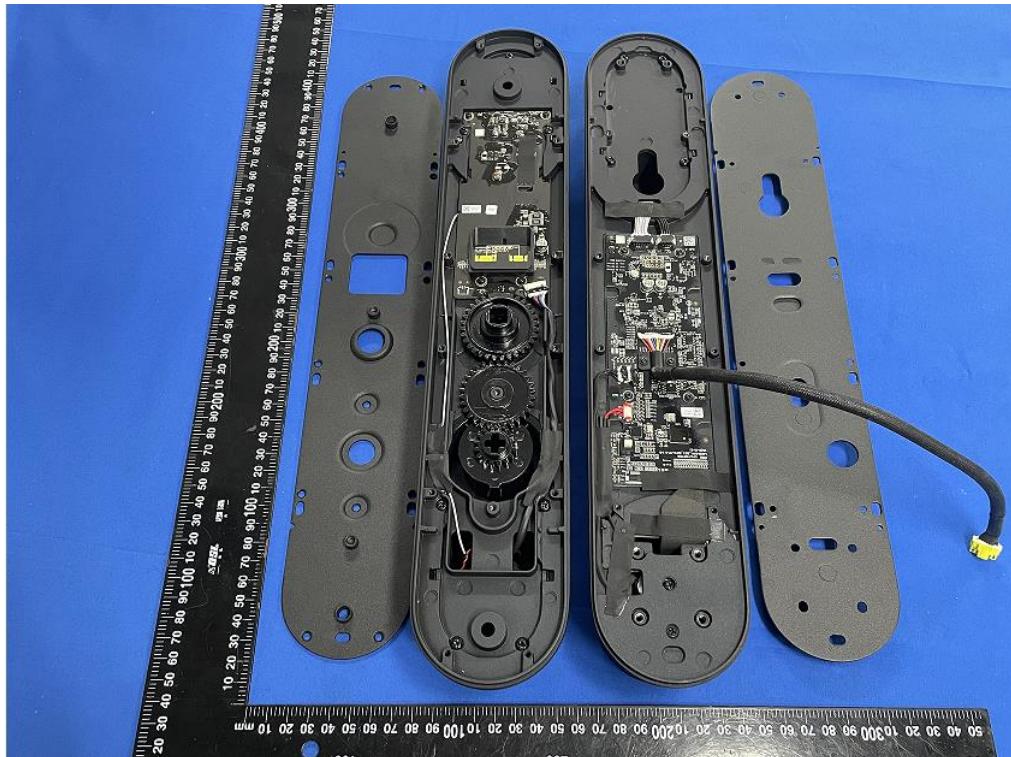


Figure 7. Internal view

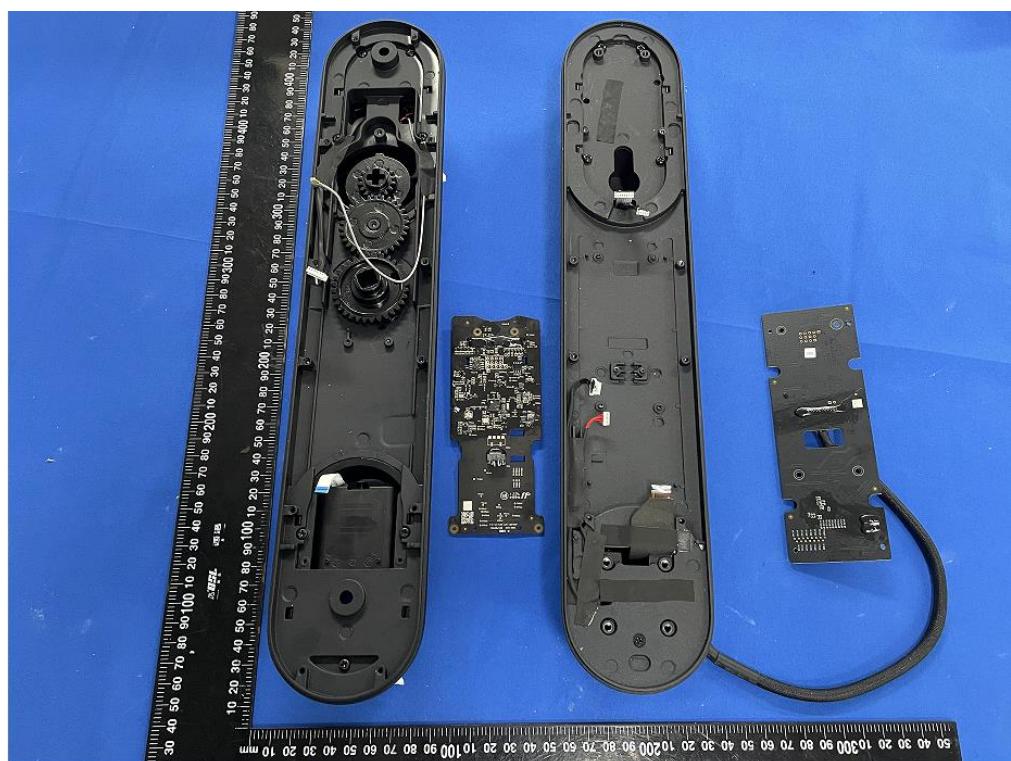


Figure 8. Internal view

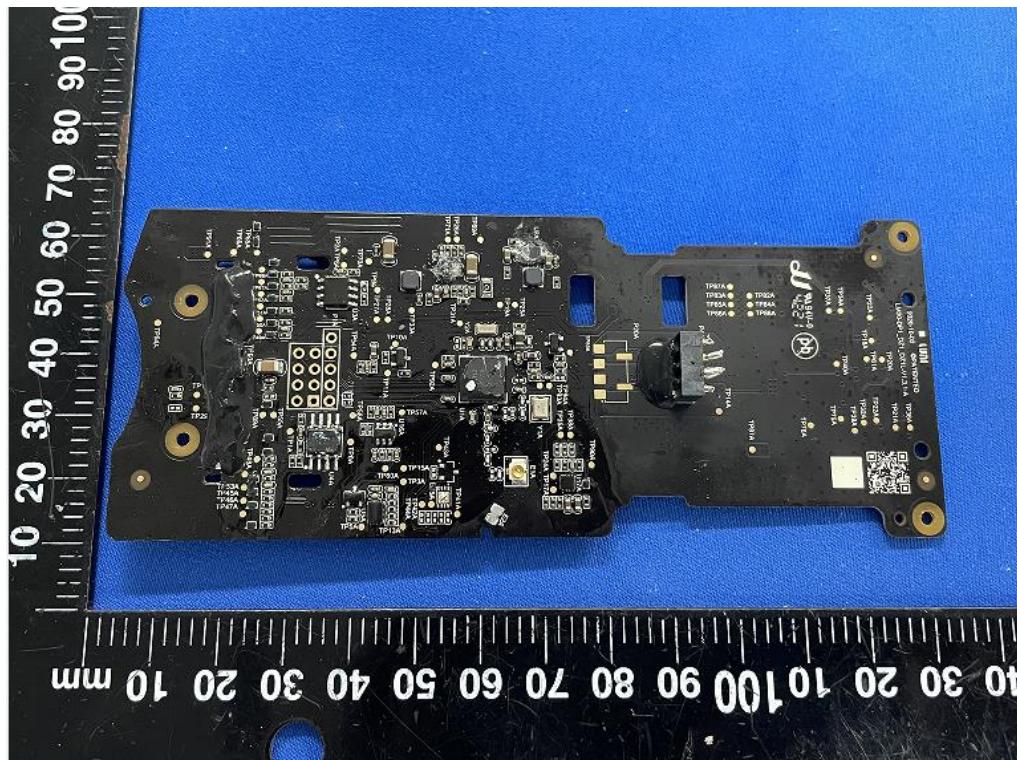


Figure 9. PCB view

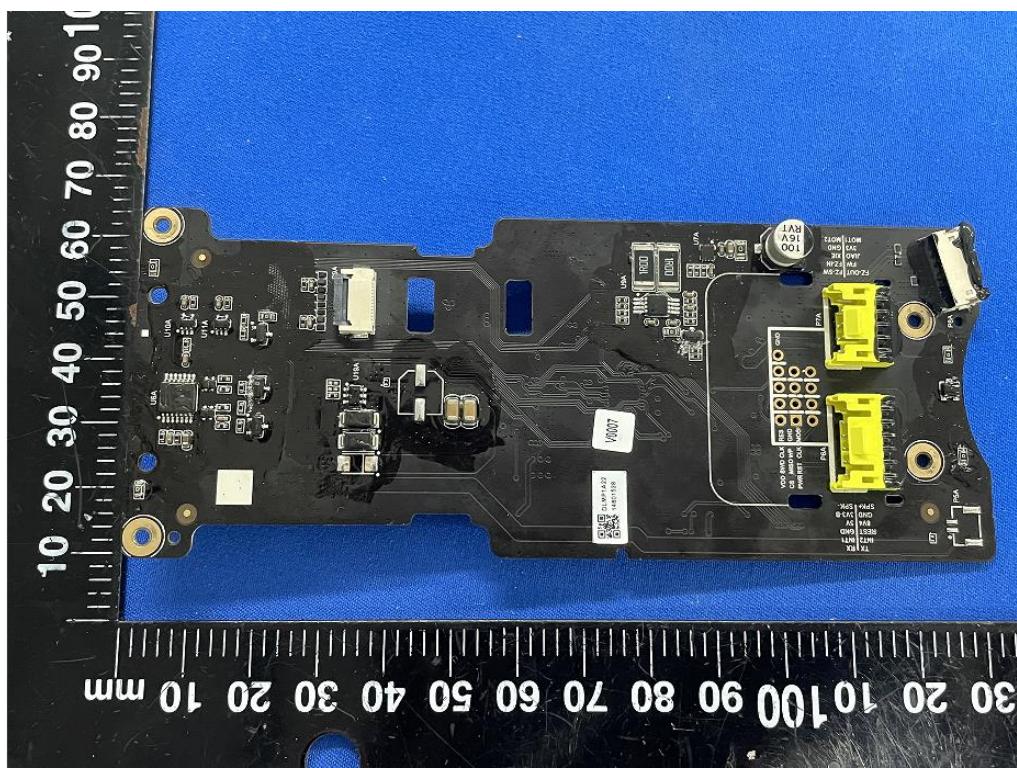


Figure 10. PCB view

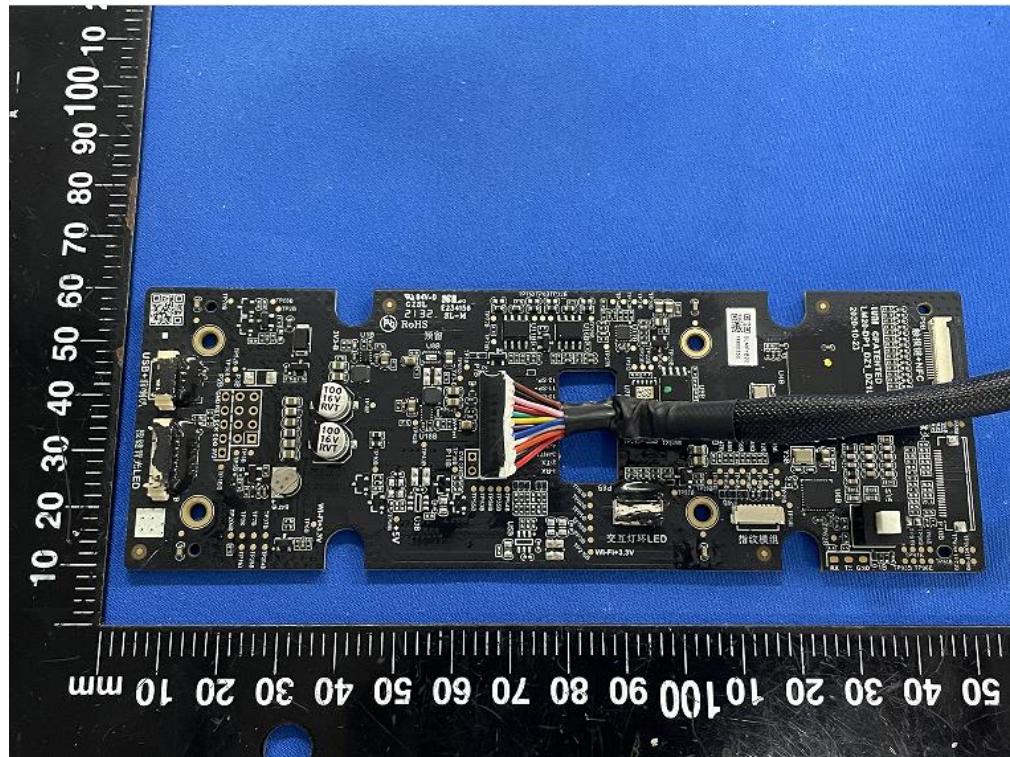


Figure 11. PCB view

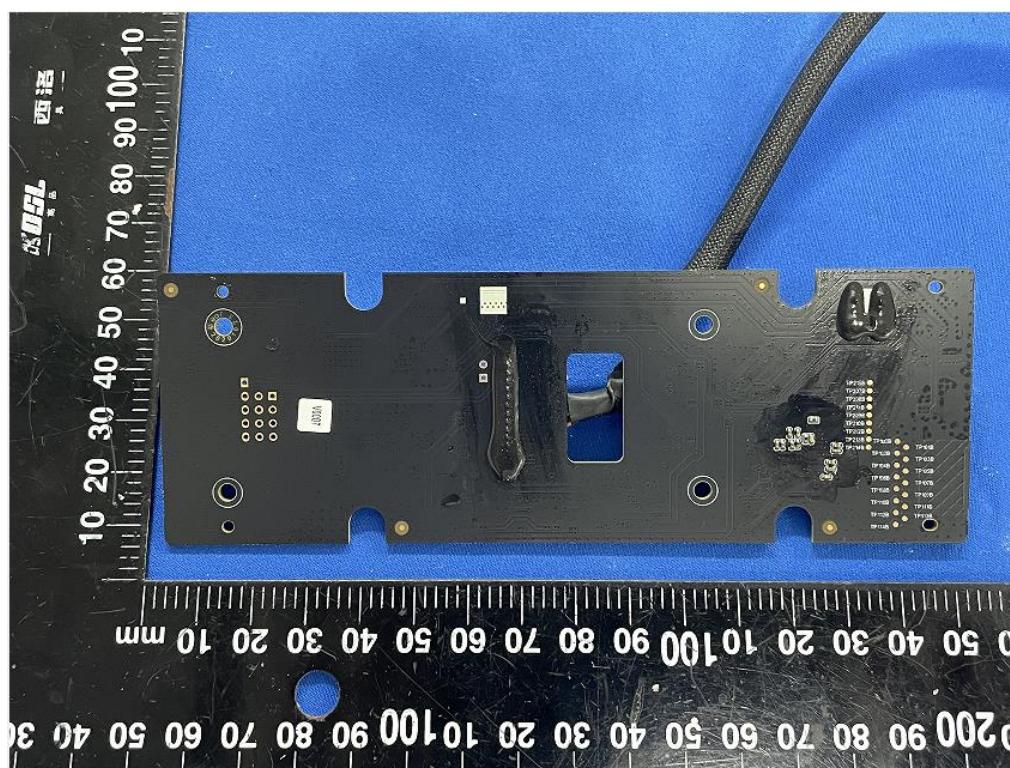


Figure 12. PCB view



Figure 13. Internal view

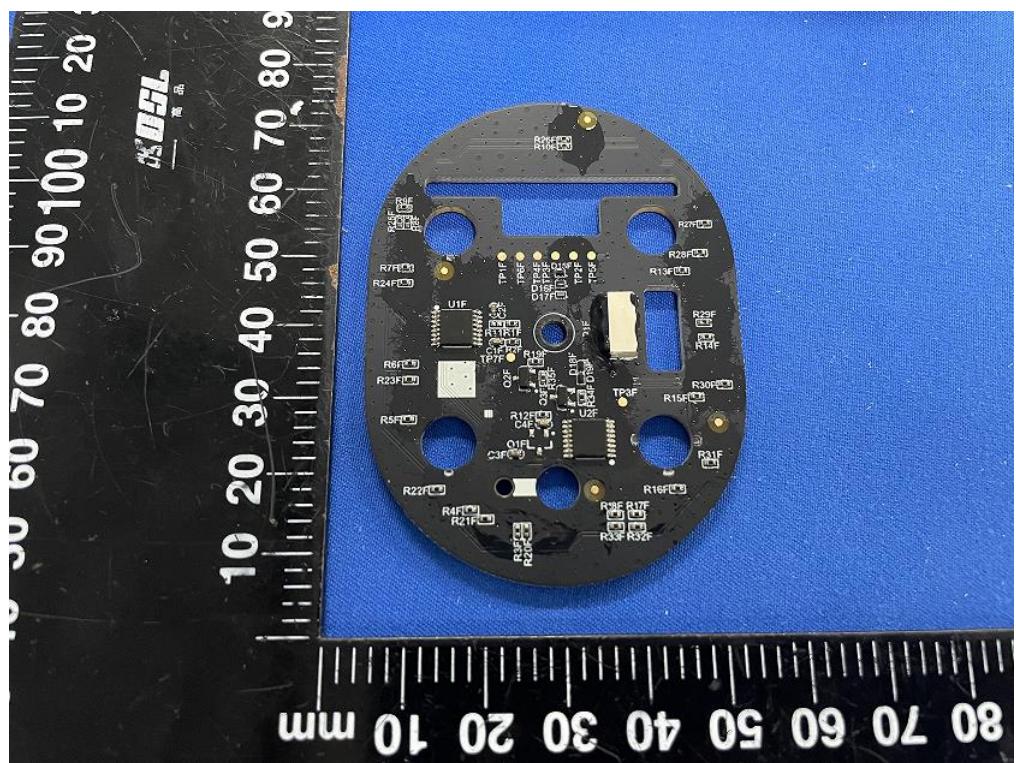


Figure 14. PCB view

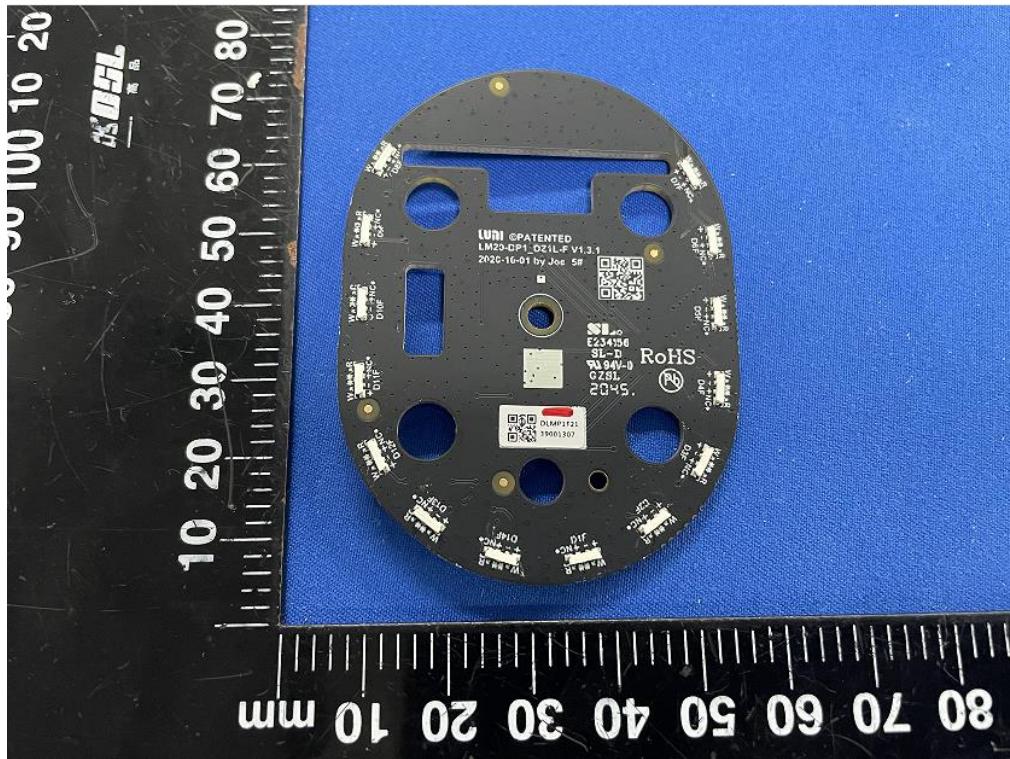


Figure 15. PCB view

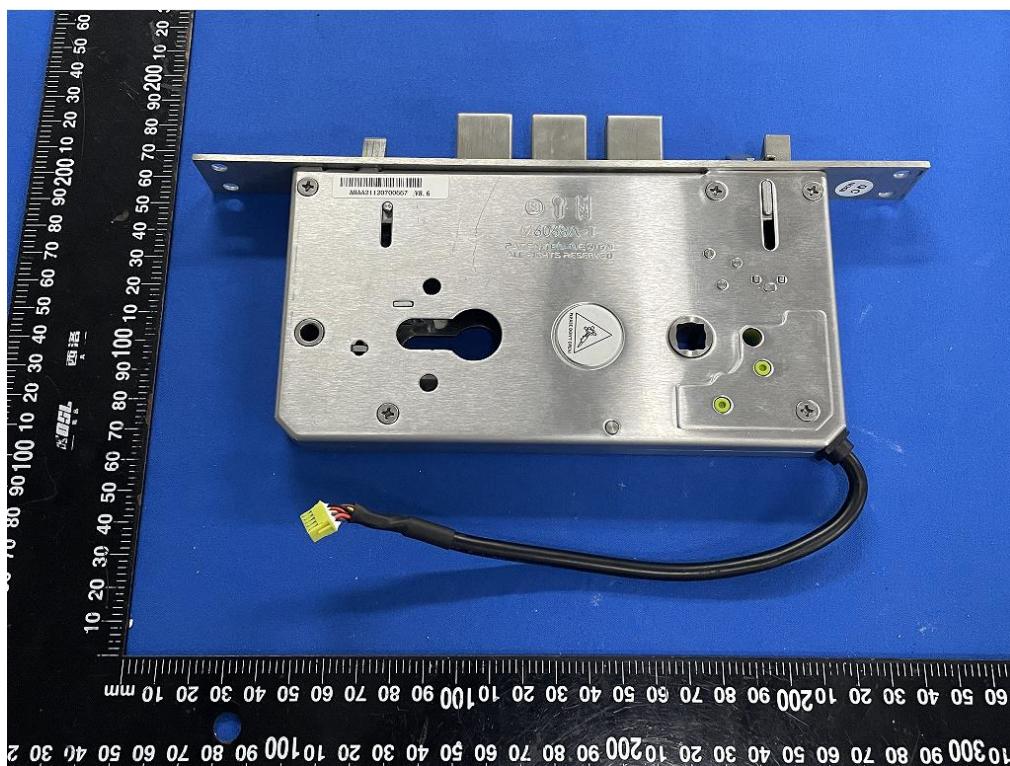


Figure 16. Lock body view



Figure 17. Lock body view

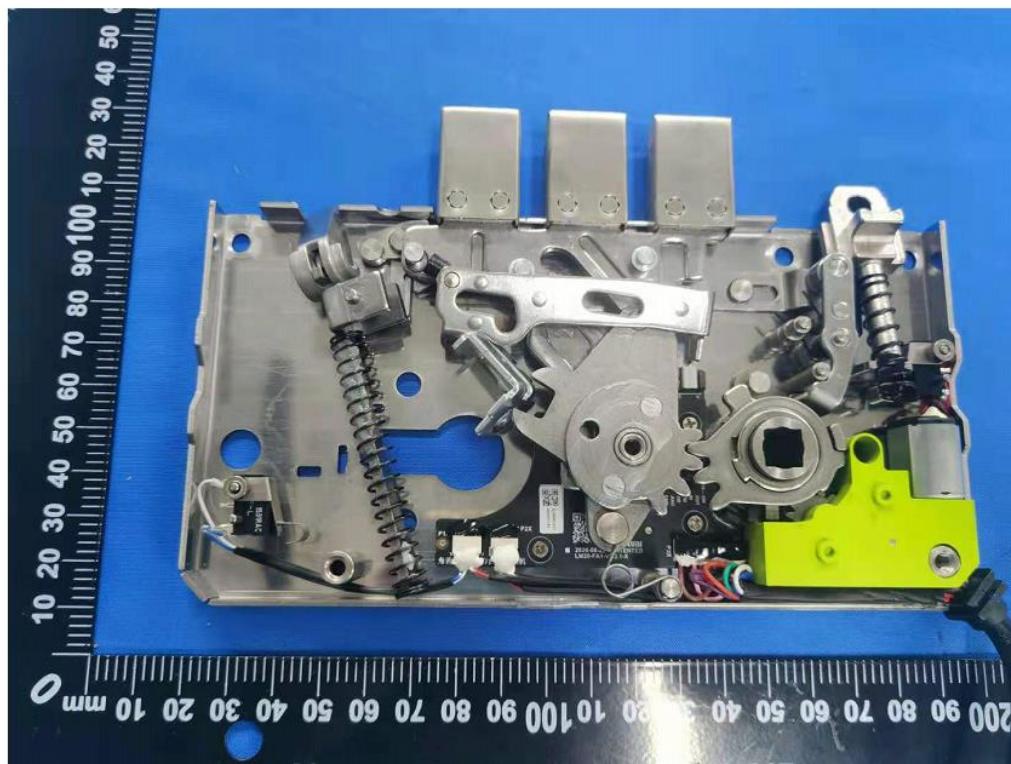


Figure 18. Internal view

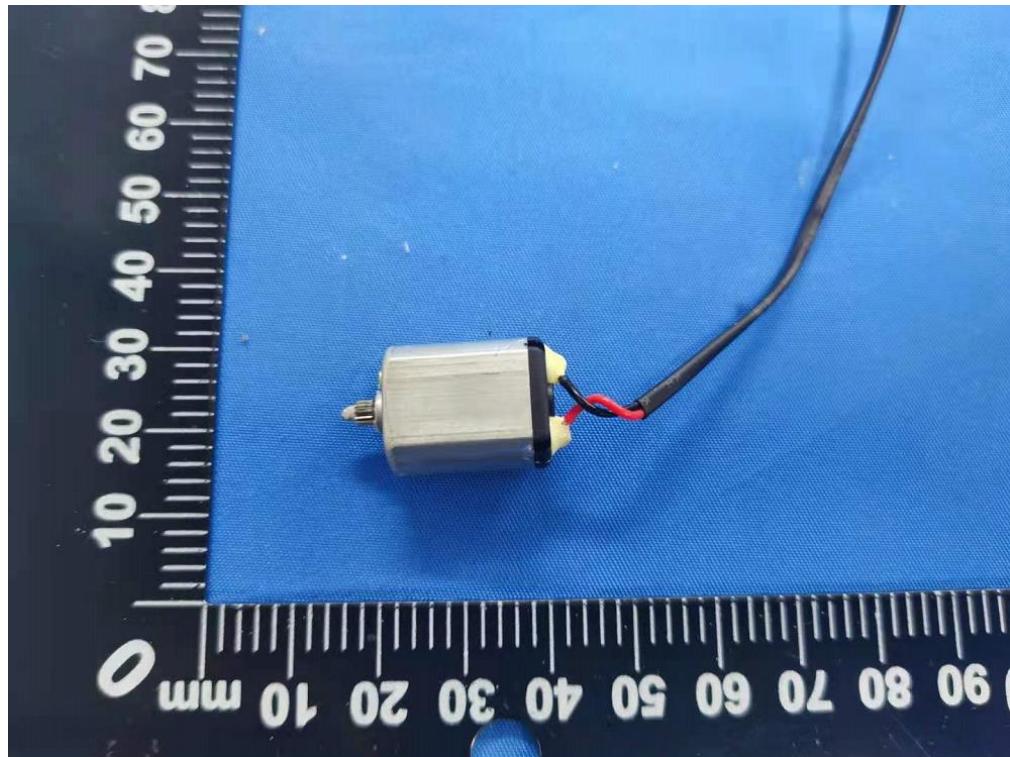


Figure 19. DC motor view

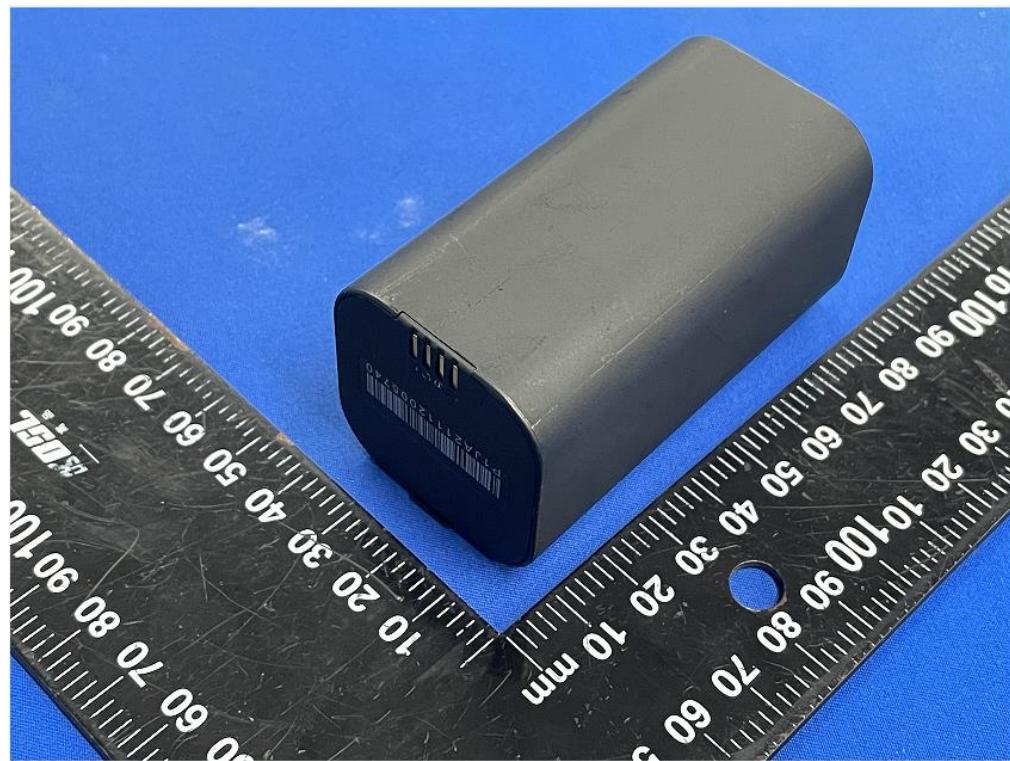


Figure 20. Battery view



Figure 21. Battery view

Statement

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